

ABSTRACT OF THE DISCLOSURE

The invention relates to a TFT device, a method of manufacturing the same, and a TFT substrate and a display having the same and provides a TFT device having good characteristics and high reliability, a method of manufacturing the same, and a TFT substrate and a display having the same. A metal thin film is formed on a gate insulation film. Patterning is performed to remove the metal thin film on a semiconductor layer to become source and drain regions of an n-type TFT. Phosphorous ions are implanted using the patterned metal thin film as a mask to form the source and drain regions. The patterned metal thin film is further patterned to form a gate electrode of the n-type TFT. Phosphorous ions are implanted using the gate electrode as a mask to form LDD regions between the source and drain regions and a channel region.